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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/633,003	08/04/2000	Steven P. Hilsdorf	870_008	2247

20028 7590 08/27/2004

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EXAMINER	
BURLESON, MICHAEL L	
ART UNIT	**PAPER NUMBER**
2626	

DATE MAILED: 08/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/633,003	Applicant(s) HILSDORF ET AL.	
	Examiner Michael Burleson	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 19-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-6* is/are allowed.

6)☒ Claim(s) *19-25,28-32 and 36-43* is/are rejected.

7)☒ Claim(s) *26,27 and 33-35* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 3.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 19,25,28-31 and 41-43 rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al. US 5734484.

Regarding claim 19, Yamamoto et al. teaches a full color image is supplied to an image processing section (203) and produces a two color image (figure 2), he also teaches that the invention can also be applied to thermal recording system (column 5, lines 66-65). This reads on a method of converting a full color image to a two color image for printing by a thermal printer, wherein said two colors are a primary color and an alternate color, comprising the steps of providing first dots defining said full color image, said first dots having a combination of none, one, two or all tree of a first color, a second color and a third color. Yamamoto et al. also teaches that color density signals subtracted by the subtracters (402, 403 and 404) are multiplied with coefficients (11, 12, 13) which is then added by an adder (410) to output a red image (column 5, lines 1-

19), the same applies for a black image (column 5, lines 20-39). This reads on determining a plurality of printer commands representing second dot data to be printed in said two color image, said second dot data being in a form of primary color dot data, alternate color dot data derived from said first dots. It is inherent that no print data is derived from first dots. This is evident because of the fact that a full color image is input and a red and black two-color image is printed, which reads on no-print data derived from said first dots.

Regarding claim 25, Yamamoto et al. teaches that the image signals are sent to an image processing section (203), where shading correction, color correction, gamma correction and converted into density signals and are supplied to a two-color separating circuit (303) (column 4, lines 52-65). The red and black colors are sent to a minimum value detecting unit (404) and a red and black image is outputted (column 5, lines 1-50). This reads on the step of determining a primary color value and a secondary color value for use in providing said second dot data based on an intensity of said first color, said second color and said third color present in a corresponding first dot of said full color image.

Regarding claim 28, Yamamoto et al. teaches that color density signals subtracted by the subtracters (402, 403 and 404) are multiplied with coefficients (11, 12, 13) which is then added by an adder (410) to output a red image and then sent to a printer (column 5, lines 1-19 and figure 3), the same applies for a black image (column 5, lines 20-39, figure 3). This reads on sending said printer commands to a printer.

Regarding claim 29, claim 29 is rejected for the same reasons as claim 28.

Regarding claim 30, Yamamoto et al. teaches that image colors are red, blue and green (figure 3), which reads on a method wherein first, second and third colors are red, green and blue, in any order.

Regarding claim 31, Yamamoto et al. teaches that image colors are cyan, magenta and yellow (figure 3), which reads on a method wherein first, second and third colors are cyan, magenta and yellow, in any order.

Regarding claim 41, Yamamoto et al. teaches of a CPU circuit unit (205), which contains a ROM (207) and a RAM (208), which controls the image processing unit (201) where the color image conversion takes place (column 4,lines 43-48). He also teaches that a software can execute the image process, which is stored in the ROM (column 6,lines 1-7). This reads on a computer memory device storing program code for conversion of a full image to a two color image for printing, wherein said two colors are a primary color and an alternate color, said conversion comprising, identifying first dots defining said full color image, said first dots having a combination of none, one, two or all three of a first color, a second color and a third color and determining a plurality of printer commands representing second dot data to be printed in said two color image, said second dot data being in a form of primary color dot data, alternate color dot data, and no-print dot data derived from said first dots.

Regarding claim 42, Yamamoto et al. teaches that the CPU circuit (205) teaches that it controls the printer unit (204) (column 4,lines 44-48 and figure 2)

and he teaches that the image processing can be executed by a software stored in the ROM (column 6, lines 1-7), which reads on program code is adapted to send said printer commands to a printer.

Regarding claim 43, Yamamoto et al. teaches that the color density signals subtracted by the subtracters (402, 403 and 404) are multiplied with coefficients (11, 12, 13) which is then added by an adder (410) to output a red image (column 5, lines 1-19), the same applies for a black image (column 5, lines 20-39) and is sent to the printer unit (204) (figure 2), which reads on determining step is performed at a printer.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. US 5734484 in view of Kouno Yoshimori JP 09-147235.

Regarding claim 20, Yamamoto et al. teaches a full color image is supplied to an image processing section (203) and produces a two color image (figure 2), he also teaches that the invention can also be applied to thermal

recording system (column 5, lines 66-65). This reads on a method of converting a full color image to a two color image for printing by a thermal printer, wherein said two colors are a primary color and an alternate color, comprising the steps of providing first dots defining said full color image, said first dots having a combination of non, one, two or all tree of a first color, a second color and a third color. Yamamoto et al. also teaches that color density signals subtracted by the subtracters (402, 403 and 404) are multiplied with coefficients (11, 12, 13) which is then added by an adder (410) to output a red image (column 5, lines 1-19), the same applies for a black image (column 5, lines 20-39). This reads on determining a plurality of printer commands representing second dot data to be printed in said two color image, said second dot data being in a form of primary color dot data, alternate color dot data derived from said first dots. It is inherent that no print data is derived from first dots. This is evident because of the fact that a full color image is input and a red and black two-color image is printed, which reads on no-print data derived from said first dots.

Yamamoto et al. fails to teach the step of printing said second dot data on a thermal substrate.

Yoshimori teaches of printing the two colors on thermographic recording paper (paragraph 0014), which reads on printing said second dot data on a thermal substrate.

Regarding claim 21, Yoshimori teaches that the printer is a two color point-of-sale printer (paragraph 0008), which reads on printing is performed on a two-color point-of-sale printer.

Regarding claim 22, Yoshimori teaches of 2 color thermographic recording paper in which two colors are printed on the paper (paragraph 0014). It is obvious that the color of the thermographic paper can be regarded as a background color. This reads on a thermal substrate has a background color, a primary encapsulated color and a secondary encapsulated color and a three color output is provided by using said primary encapsulated color as the first color, said secondary encapsulated color as the second color, and said background color as the third color.

5. Claim 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. US 5734484 in view of Ogura Tokihiko JP 09-308098.

Regarding claim 23, Yamamoto et al. teaches a full color image is supplied to an image processing section (203) and produces a two color image (figure 2), he also teaches that the invention can also be applied to thermal recording system (column 5, lines 66-65). This reads on a method of converting a full color image to a two color image for printing by a thermal printer, wherein said two colors are a primary color and an alternate color, comprising the steps of providing first dots defining said full color image, said first dots having a combination of non, one, two or all tree of a first color, a second color and a third color. Yamamoto et al. also teaches that color density signals subtracted by the subtracters (402, 403 and 404) are multiplied with coefficients (11, 12, 13) which is then added by an adder (410) to output a red image (column 5, lines 1-19), the

same applies for a black image (column 5, lines 20-39). This reads on determining a plurality of printer commands representing second dot data to be printed in said two color image, said second dot data being in a form of primary color dot data, alternate color dot data derived from said first dots. It is inherent that no print data is derived from first dots. This is evident because of the fact that a full color image is input and a red and black two-color image is printed, which reads on no-print data derived from said first dots.

Yamamoto et al. fails to teach a full color image is provided on a host computer with said first dots comprising display pixels.

Tokihiko teaches a host computer (300) that displays color information on a monitor (paragraph 0045), which reads on a full color image is provided on a host computer with said first dots comprising display pixels.

Yamamoto et al. could have easily been modified with the host computer and monitor of Ogura Tokihiko. This modification would have been obvious to one skilled in the art at the time of the invention by allowing the user to view the full color image before conversion to a two-color image.

Regarding claim 24, Yamamoto et al. teaches that density signals of RGB are used to form a red and black image (column 5, lines 3-8, figures 3 and 4), which reads on the step of determining a primary color value and a secondary color value for use in providing said second dot data based on an intensity of said first color, said second color and said third color present in a corresponding display pixel.

6. Claim 32,36,39,40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. US 5734484 in view of Ogura Tokihiko JP 09-308098.

Regarding claim 32, Yamamoto et al. teaches a full color image is supplied to an image processing section (203) and produces a two color image (figure 2). He also teaches of an image processing unit (203), where color density signals subtracted by the subtracters (402, 403 and 404) are multiplied with coefficients (11, 12, 13), which is then added by an adder (410) to output a red image (column 5, lines 1-19), the same applies for a black image (column 5, lines 20-39). It is inherent that no print data is derived from first dots. This is evident because of the fact that a full color image is input and a red and black two-color image is printed, which reads on no-print data derived from said first dots. This reads on a processor adapted to provide a plurality of printer commands representing individual dot data from said image in a form of primary color dot data, alternate color dot data and no-print dot data

Yamamoto et al. fails to teach of a host computer adapted to display said full color image as a combination of none, one, two or all tree of a first color, a second color and a third color.

Tokihiko teaches of a host computer (300) that displays color information on a monitor (paragraph 0044), which reads on a host computer adapted to display said full color image as a combination of none, one, two or all tree of a first color, a second color and a third color.

Yamamoto et al. could have easily been modified with the host computer and monitor of Ogura Tokihiko. This modification would have been obvious to one skilled in the art at the time of the invention by allowing the user to view the full color image before conversion to a two-color image.

Regarding claim 36, Yamamoto et al. teaches that the printer unit records on copy transfer paper, processed signals (column 4, lines 34-35 and 42-43 and figure 2). The invention can also be applied to thermal recording system (column 5, lines 66-65). This reads on a thermal printer adapted to print said individual dot data on a printable medium.

Regarding claim 39, Yamamoto et al. teaches of RGB as an input signal (figure 3), which reads on first, second and third colors are red, green and blue, in any order.

Regarding claim 40, Yamamoto et al. teaches of CMY as a first, second and third color (figure 3), which reads on first, second and third colors are cyan, magenta and yellow, in any order.

7. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. US 5734484 in view of Ogura Tokihiko JP 09-308098 as applied to claim 32 above, and further in view of Kouno Yoshimori JP 09-147235.

Regarding claim 37, Yamamoto et al. in view Ogura Tokihiko teaches all of the limitations of claim 32, but fails to teach of a printable medium is a thermal substrate having a background color, a primary encapsulated color and a

secondary encapsulated color and a three color output is provided by using said primary encapsulated color as the first color, said secondary encapsulated color as the second color and said background color as the third color.

Yoshimori teaches of 2 color thermographic recording paper in which two colors are printed on the paper (paragraph 0014). It is obvious that the color of the thermographic paper can be regarded as a background color. This reads on a thermal substrate has a background color, a primary encapsulated color and a secondary encapsulated color and a three color output is provided by using said primary encapsulated color as the first color, said secondary encapsulated color as the second color, and said background color as the third color.

Yamamoto et al. in view of Ogura Tokihiko could have easily been modified with the thermographic paper of Kouno Yoshimori. This modification would have been obvious to one skilled in the art at the time of the invention to print colors on a printable medium.

Regarding claim 38, Kouno Yoshimori teaches of a point-of-sale terminal, whose information is printed by a two-color thermal printer (paragraph 0005). This reads on a two-color point-of-sale printer adapted to print said individual dot data on a printable medium.

Allowable Subject Matter

1. Claims 1-6 are allowed.

Regarding claim 1, the closest reference Yamamoto et al. US 5734484 fails to teach that the primary and secondary colors for each printer command to a given threshold and designating a color value as ON if it exceeds a given threshold and a color value as OFF if it is equal to or below a given threshold and performing a logical OR operation on the primary and secondary color values to produce a secondary color.

Regarding claim 4, the closest reference Yamamoto et al. US 5734484 fails to teach a means for comparing color values for each printer command to a given threshold and designating a color value as ON if it has a first relationship to a given threshold and OFF if it has a second relationship to a given threshold and performing a logical operation on color values to produce a secondary value.

2. Claims 26,27,33-35 and 38 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

1. Any inquiry concerning this communication should be directed to Michael Burleson whose telephone number is (703) 305-8683 and fax number is (703) 746-3006. The examiner can normally be reached Monday thru Friday from 8:00 a.m. – 4:30p.m. If attempts to reach the examiner by telephone are

unsuccessful, the examiner's supervisor, Kimberly Williams can be reached at

(703) 305-4863

Michael Burleson
Patent Examiner
Art Unit 2626

MB

Mlb
August 18, 2004

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